San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

SEP 17 2014

Mr. Todd Seely
E & J Gallo Winery
600 Yosemite Blvd
Modesto, Ca 95354

Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # N-3386
Project # N-1141739

Dear Mr. Seely:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project is for the installation of a 383 hp natural gas-fired emergency IC engine serving an electrical generator.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

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San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review
Natural Gas-Fired Emergency Standby IC Engine

Facility Name:	E & J Gallo Winery	Date:	August 28, 2014
Mailing Address:	600 Yosemite Blvd Modesto, CA 95354	Engineer:	G. Heinen
		Lead Engineer:	Brian Clements
Contact Person:	Chris Vierra, Agent		
Telephone:	(209) 681-7053		
Application #:	N-3386-486-0		
Project #:	N-1141739		
Complete:	August 27, 2014		

I. Proposal

E & J Gallo Winery has requested an Authority to Construct (ATC) permit for the installation of a 383 bhp natural gas-fired emergency standby internal combustion (IC) engine powering an electrical generator. The generator will be located at their new administrative building which will begin construct this October.

E & J Gallo Winery received their Title V Permit on July 6, 2000. This modification can be classified as a Title V minor modification pursuant to Rule 2520 and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day Environmental Protection Agency (EPA) comment period will be satisfied prior to the issuance of the Authority to Construct. E & J Gallo Winery must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4701 Internal Combustion Engines - Phase 1 (8/21/03)
Rule 4702 Internal Combustion Engines (11/14/13)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment

CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The project is located at 600 Yosemite Blvd in Modesto, CA. The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The emergency standby engine powers an electrical generator to provide power in case of an interruption in commercial power service. Other than emergency operation, the engine may be operated up to 100 hours per year for maintenance and testing purposes.

V. Equipment Listing

N-3386-486-0: 383 BHP (INTERMITTENT) CUMMINS MODEL GTA855E RICH-BURN NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION (NSCR) POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired engines include NO_X, CO, VOC, PM_{10}, and SO_X.

NO_X is the major pollutant of concern when burning natural gas. NO_X formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_X) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_X). Due to the low fuel nitrogen content of natural gas, nearly all NO_X emissions are thermal NO_X. Formation of thermal NO_X is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

The engine is equipped with:
[ ] Positive Crankcase Ventilation (PCV) or 90% efficient control device
[X] Non-Selective Catalytic Reduction
[X] Air/Fuel Ratio or an O_2 Controller
[ ] Lean Burn Technology

Non-Selective Catalytic Reduction (NSCR) decreases NO_X, CO and VOC emissions by using a catalyst to promote the chemical reduction of NO_X into N_2 and O_2, and the chemical oxidation of VOC and CO into H_2O and CO_2.

The fuel/air ratio controller, (oxygen controller) is used in conjunction with the NSCR to maintain the amount of oxygen in the exhaust stream to optimize catalyst function.

VII. General Calculations

A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	100 hours/year
EPA F-factor (adjusted to 60 °F):	8,578 dscf/MMBtu (40 CFR 60 Appendix B)
Fuel heating value:	1,000 Btu/dscf (District Policy APR-1720)
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Sulfur concentration:	2.85 lb-S/MMscf (District Policy APR-1720)
Thermal efficiency of engine:	commonly ≈ 35%

B. Emission Factors

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO_X	0.31	Engine Manufacturer
SO_X	0.0094[1]	Mass Balance Equation, below
PM_{10}	0.033[2]	AP-42 (7/00) Table 3.2-2
CO	1.46	Engine Manufacturer
VOC	0.00[3]	Engine Manufacturer

[1] SO_X EF is calculated as follows:

$$0.00285 \quad \frac{lb-SO_x}{MMBtu} \times \frac{1\,MMBtu}{1{,}000{,}000\,Btu} \times \frac{2{,}542.5\,Btu}{bhp-hr} \times \frac{1\,bhp\,input}{0.35\,bhp\,out} \times \frac{453.6\,g}{lb} = \quad 0.0094 \quad \frac{g-SO_x}{bhp-hr}$$

[2] PM_{10} value includes both filterable (7.71×10^{-5} lb/MMBtu) and condensable (9.91×10^{-3} lb/MMBtu) emissions. The g/bhp-hr equivalent of lb/MMBtu value is calculated as follows:

$$0.0099871 \quad \frac{lb}{MMBtu} \times \frac{1\,MMBtu}{1{,}000{,}000\,Btu} \times \frac{2{,}542.5\,Btu}{bhp-hr} \times \frac{1\,bhp\,input}{0.35\,bhp\,out} \times \frac{453.6\,g}{lb} = \quad 0.033 \quad \frac{g-NO_x}{bhp-hr}$$

[3] The manufacture's rating for 0.00 g-VOC/bhp-hr appears reasonable for emergency operations given that the emission factor for an uncontrolled, rich-burn natural gas engine is 0.030 g-VOC/bhp-hr (AP-42 (7/00) Table 3.2-3). This engine will have an NSCR, which can have a VOC conversion efficiency as high as 90%, resulting in emissions of 0.003 g-VOC/bhp-hr which rounds to the manufacturer's emission factor.

C. Calculations

1. Pre-Project Emissions (PE1)

Since this is a new emissions unit, PE1 = 0.

2. Post-Project PE (PE2)

The daily and annual PE2s are calculated as follows:

Daily PE2 (lb-pollutant/day) = EF (g-pollutant/bhp-hr) x rating (bhp) x operation (hr/day) / 453.6 g/lb

Annual PE2 (lb-pollutant/yr) = EF (g-pollutant/bhp-hr) x rating (bhp) x operation (hr/yr) / 453.6 g/lb

Project Emissions (PE2)

Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/yr)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO_X	0.31	383	24	100	**6.3**	**26**
SO_X	0.0094	383	24	100	**0.2**	**1**
PM_{10}	0.033	383	24	100	**0.7**	**3**
CO	1.46	383	24	100	**29.6**	**123**
VOC	0.00	383	24	100	**0.0**	**0**

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source and have not been used on-site.

SSPE1 is summarized in the following table. See project N-1132554 for the detailed SSPE calculations.

Description	Pollutant (lb/year)				
	NO_X	CO	VOC	SO_X	PM_{10}
SSPE1 (N-3386)[1]	9,028	50,812	36,710	778	72,504
SSPE1 (N-7478)[1]	6,603	5,221	273,974	176	473
ATC N-3386-484-0	108	35	3	0	3
PE w/o ERC's	15,739	56,068	310,687	954	72,980
ERC N-260-2	125	0	0	0	0
ERC N-260-3	0	783	0	0	0
ERC N-964-1	0	0	90,000	0	0
SSPE1	**15,864**	**56,851**	**400,687**	**954**	**72,980**

[1] These two operations are part of the same stationary source as N-3386, but are listed separately for business-related accounting purposes. The proposed engine will be located at a new adjacent building providing administrative support to those operations.

4. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

For this project the change in emissions for the facility is due to the installation of the new emergency standby IC engine. Thus:

Description	Pollutant (lb/year)				
	NO_X	CO	VOC	SO_X	PM_{10}
SSPE1 (N-3386)	9,028	50,812	36,710	778	72,504
SSPE1 (N-7478)	6,603	5,221	273,974	176	473
ATC N-3386-484-0	108	35	3	0	3
ERC N-260-2	125	0	0	0	0
ERC N-260-3	0	783	0	0	0
ERC N-964-1	0	0	90,000	0	0
ATC N-3386-486-0	26	123	0	1	3
SSPE2	**15,890**	**56,974**	**400,687**	**955**	**72,983**

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For

the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Facility emissions pre-project	15,864	954	72,980	56,851	400,687
Facility emissions post-project	15,890	955	72,983	56,974	400,687
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

As seen in the table above, this source is an existing Major Source for VOC emissions and will remain a Major Source for VOC.

Rule 2410 Major Source Determination:

The facility and equipment currently under consideration is not a source category listed in 40 CFR Part 52.21(b)(1)(i), therefore, the applicable thresholds are those shown on the table below.

Pollutant	PSD Threshold (tons/yr)	Current Facility PE (tons/yr)	Major PSD Source
NOx	250	7.8	No
CO	250	28.4	No
VOC	250	200.4	No
SOx	250	0.48	No
PM	250	36.5	No
PM10	250	36.5	No

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,

- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

Since this is a new emissions unit, BE = PE1 = 0 for all criteria pollutants.

7. SB 288 Major Modification:

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the, increases in fugitive emissions are not included in the SB 288 Major Modification calculation.

Non-road engines shall not be considered in determining whether a project is an SB 288 Major Modification. The Federal CAA reserves the regulation of non-road engines to Title II (National Emission Standards) of the CAA.

Since this facility is a major source for VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_x	26	50,000	No
SO_x	1	80,000	No
PM_{10}	3	30,000	No
VOC	0	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in a project.

The engine's emissions were calculated in this document above. Per the District's draft policy titled *Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 and Federal Major Modifications*, a permitting action is a Federal Major Modification if it will result in an increase in emission in excess of the thresholds specified in section 3.18 of Rule 2201 (see table below). The draft policy further states that if the emission increases are less than or equal to 0.5 lb/day, on an average basis, then they are to be rounded to zero (consistent with District Policy APR-1130 Increases in Maximum Daily Permitted Emissions of Less than or Equal to 0.5 lb/day.)

As shown in section VII.C.4 of this document, the total annual potential to emit for NO_X, PM_{10} and VOC emissions are 26 lb/year, 3 lb/year and 0 lb/year respectively. Assuming that the engine would operate an average of no more than 30 minutes per day, for testing and maintenance purposes, it could potentially operate 200 days per year. Therefore, the average daily emission rates can be determined using the annual potential to emit divided by a worst case operating scenario of 200 days per year.

Average Daily PE2 = Annual PE / 200 days/yr

Pollutant	Annual PE (lb/year)	Worst Case Operation (days/year)	Average Daily PE2 (lb/day)
NO_X	26	200	0.0[1]
PM_{10}	3	200	0.0[1]
VOC	0	200	0.0[1]

[1] As explained above, in accordance with District Policy APR-1130, the PE2 rounds to zero for each of these pollutants.

The project's emission increases were calculated in Section VII C and compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO_x	0	0	No
VOC	0	0	No
PM_{10}	0	30,000	No
$PM_{2.5}$	0	20,000	No

Since none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute a Federal Major Modification and no further analysis is required.

9. Rule 2410 - Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10

The first step of this PSD applicability evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major source (See Section VII.C.5 of this document).

In this case if a facility that is NOT an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

Project Emission Increase – Significance Determination

As a screening tool, the potential to emit from all new and modified units at the facility is compared to the PSD major source threshold and if the total potential to emit from all new and modified units at the facility is below this threshold, no futher analysis will be needed.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Total PE from New and Modified Units	0.0	0.0	0	0.0	0.00	0.0
PSD Significant Emission Increase Thresholds	250	250	250	250	250	250
PSD Significant Emission Increase?	No	No	No	No	No	No

As demonstrated above, because the post-project total potentials to emit from all new and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix E.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

As discussed in Section I, the facility is proposing to install a new emergency standby IC engine. Additionally, as determined in Sections VII.C.7 and VII.C.8, this project does not result in an SB288 Major Modification or a Federal Major Modification, respectively. Therefore, BACT can only be triggered if the daily emissions exceed 2.0 lb/day for any pollutant.

The daily emissions from the new engine are compared to the BACT threshold levels in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO_X	6.3	> 2.0	n/a	Yes
SO_X	0.2	> 2.0	n/a	No
PM_{10}	0.7	> 2.0	n/a	No
CO	29.6	> 2.0 and SSPE2 ≥ 200,000 lb/yr	56,974	No
VOC	0.0	> 2.0	n/a	No

As shown above, BACT will be triggered for NO_X emissions from the engine for this project.

2. BACT Guideline

BACT Guideline 3.1.6, which appears in Appendix B of this report, covers Emergency Gas Fired IC Engines > or = 132 hp, Rich Burn.

3. Top Down BACT Analysis

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

Pursuant to the attached Top-Down BACT Analysis, which appears in Appendix B of this report, BACT is satisfied with:

NO_X: NOx Catalyst and natural gas, LPG, or propane as fuel

Therefore, the following conditions will be listed on the ATC to ensure compliance:

- {4771} Emissions from this IC engine shall not exceed any of the following limits: 0.31 g-NOx/bhp-hr, 1.46 g-CO/bhp-hr, or 0.00 g-VOC/bhp-hr. [District Rule 2201]

- {4772} Emissions from this IC engine shall not exceed 0.033 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102]

- {3493} This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201]

B. Offsets

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and no offset calculations are required.

C. Public Notification

1. Applicability

Public noticing is required for:

a. New Major Sources, SB288 Major Modifications, and Federal Major Modifications

As shown in Sections VII.C.5, VII.C.7, and VII.C.8, this facility is not a new Major Source, not an SB 288 Major Modification, and not a Federal Major Modification.

b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant

As calculated in Section VII.C.2, daily emissions for all pollutants are less than 100 lb/day.

c. Any project which results in the offset thresholds being surpassed

The following table compares the SSPE1 with the SSPE2 to the offset thresholds in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Public Notice Required?
NO_X	15,864	15,890	20,000	No
SO_X	954	955	54,750	No
PM_{10}	72,980	72,983	29,200	No
CO	56,851	56,974	200,000	No
VOC	400,687	400,687	20,000	No

As detailed in the preceding table, there were no offset thresholds were surpassed with this project. Therefore, public noticing is not required for this project for surpassing the SSPE2 offset thresholds.

d. Any project with a Stationary Source Project Increase in Permitted Emissions (SSIPE) greater than 20,000 lb/year for any pollutant.

For this project, the proposed engine is the only emissions source that will generate an increase in Potential to Emit. Since the proposed engine emissions are well below 20,000 lb/year for all pollutants (See Section VII.C), the SSIPE for this project will be below the public notice threshold.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any criteria pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emissions Limits

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT. For this emergency standby IC engine, the DELs are stated in the form of emission factors, the maximum engine horsepower rating, and the maximum operational time of 24 hours per day. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {4771} Emissions from this IC engine shall not exceed any of the following limits: 0.31 g-NOx/bhp-hr, 1.46 g-CO/bhp-hr, or 0.00 g-VOC/bhp-hr. [District Rule 2201]

- {4772} Emissions from this IC engine shall not exceed 0.033 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102]

- {3493} This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification, and daily emission limit requirements of Rule 2201. As required by District Rule 4702, *Stationary Internal Combustion Engines - Phase 2*, this IC engine is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

4. Reporting

No reporting is required to ensure compliance with Rule 2201.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule. As discussed previously in the proposal section, the facility has applied for a Certificate of Conformity (COC). Therefore, the following conditions will be listed on the ATC:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]

- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

In addition, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart JJJJ is the only subpart that applies to compression-ignited internal combustion engines.

40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Section 60.4230(a)(4)(iv) states that the provisions of this subpart apply to owners and operators of stationary spark ignition (SI) internal combustion engines that commence construction after January 1, 2009 for emergency engines with a maximum engine power greater than 25 hp. The engine in this project was manufactured after 2009 and is greater than 25 hp. Therefore, this subpart applies to the proposed engine.

Section 60.4233(a) states that owners and operators of stationary SI ICE with a maximum power greater than 25 bhp that are rich burn engines must comply with the emission standards in Section 60.4231(a). This engine is a rich burn engine and is greater than 25 bhp; therefore, this engine is subject to the emission standards of Section 60.4231(a).

The engine meets the emission standards of Section 60.4231(a); therefore, the requirements of this section are satisfied.

Section 60.4234 states that owners and operators of stationary SI ICE must comply with the applicable emission standards over the life of the engine.

Section 60.4237 states that emergency stationary SI ICE that are greater than or equal to 130 hp and less than 500 that was built on or after January 1, 2011, must install a non-resettable hour meter if the engine does not meet the standards applicable for non-emergency engines.

The engine meets the emission standards for non-emergency engines; however, District Rule 4702 requires the use of an hour meter. Therefore, the requirements of this section are satisfied.

Section 60.4243 states that owners and operators of stationary SI ICE that were manufactured after July 1, 2008, and must comply with the emission standards in Section 60.4233(a) through (c), must comply by purchasing an engine certified to the emission standards in Section 60.4231(a) through (c). The owner or operator must also comply with (a)(1) and (a)(2):

> *(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate*

compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

The engine meets the emission standards of Section 60.4231(a); therefore, the requirements of this section are satisfied. District Rule 4702 also requires the permittee to operate and maintain the SI ICE according to the manufacturer's instructions; therefore, the requirements of this section are satisfied.

Section 60.4243(d) states that owners and operators of emergency stationary SI ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such limits is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations.

The following condition ensures compliance with the requirements of this section:

- This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rules 2201 and 4702 and 40 CFR 60 Subpart JJJJ]

Section 60.4243(g) states that an air-to-fuel ratio (AFR) controller is expected to be used with the operation of a three-way catalyst/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. The engine is already equipped with an AFR controller; therefore, the following condition will ensure continued compliance:

- This IC engine shall be equipped with a three-way catalyst/non-selective catalytic reduction system and air-to-fuel ratio controller and shall be fired on natural gas fuel only. [District Rule 2201 and 40 CFR 60 Subpart JJJJ]

Section 60.4245(a) states that owners or operators of stationary SI ICE must keep the following records: 1) All notifications submitted to comply with this subpart and all documentation supporting any notification, 2) Maintenance conducted on the engine, 3)

If the stationary SI ICE is a certified engine, documentation from the manufacturer that the engine is certified to meet emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

The following conditions ensure compliance with the requirements of this section:

- The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115 and 40 CFR 60 Subpart JJJJ]

- During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702 and 40 CFR 60 Subpart JJJJ]

Rule 4002 National Emission Standards for Hazardous Air Pollutants (HAP)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Section 63.6585 states that the provisions of this subpart apply to owners and operators of stationary reciprocating internal combustion engines (RICE) at a major or an area source of HAP emissions. The engine in this project is operated at an area source of HAP emissions; therefore, this subpart applies to the proposed engine.

Since this engine commenced construction after June 12, 2006, it is considered to be a new engine under Section 63.6590(2)(iii). Section 63.6590(c) requires new spark ignited engines to meet the requirements of 40 CFR part 60 subpart JJJJ. As shown earlier, the engine satisfies Subpart JJJJ requirements so no further requirements apply Subpart ZZZZ.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of this operation, provided the equipment is well maintained. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. Therefore, a risk management review (RMR) was performed for this project. The RMR results are summarized in the following table, and can be seen in detail in Appendix D.

RMR Results				
Unit	Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T-BACT Required?
N-3386-486-0	0.03	0.00	0.216 in a million	No

The following conditions will be listed on the ATC to ensure compliance with the RMR:

- {1898 modified} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102 and 17 CCR 93115]

- {3806 modified} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations.

Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702] [District Rule 4702 and 17 CCR 93115]

Rule 4201 Particulate Matter Concentration

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM_{10} emission factor of 0.4 g-PM_{10}/bhp-hr.

$$0.1 \frac{grain-PM}{dscf} \times \frac{g}{15.43 grain} \times \frac{1 Btu_{in}}{0.35 Btu_{out}} \times \frac{9{,}051 dscf}{10^6 Btu} \times \frac{2{,}542.5 Btu}{1 bhp-hr} \times \frac{0.96 g-PM_{10}}{1 g-PM} = 0.4 \frac{g-PM_{10}}{bhp-hr}$$

The new engine has a PM_{10} emission factor of 0.033 g-PM10/bhp-hr is less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Rule 4701 Internal Combustion Engines - Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp that requires a PTO.

The proposed engine is also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements for emergency engines, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

Rule 4702 Internal Combustion Engines

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_X), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

This rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower.

Pursuant to Section 4.2, except for the requirements of Sections 5.7 and 6.2.3, the requirements of this rule shall not apply to an internal combustion engine that meets the following condition:

1) An emergency standby engine as defined in Section 3.0 of this rule, and provided that it is operated with a nonresettable elapsed operating time meter. In lieu of a

nonresettable time meter, the owner of an emergency engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

Section 3.15 defines an "Emergency Standby Engine" as an internal combustion engine which operates as a temporary replacement for primary mechanical or electrical power during an unscheduled outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the operator. An engine shall be considered to be an emergency standby engine if it is used only for the following purposes: (1) periodic maintenance, periodic readiness testing, or readiness testing during and after repair work; (2) unscheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply; and (3) if it is limited to operate 100 hours or less per calendar year for non-emergency purposes. An engine shall not be considered to be an emergency standby engine if it is used: (1) to reduce the demand for electrical power when normal electrical power line service has not failed, or (2) to produce power for the utility electrical distribution system, or (3) in conjunction with a voluntary utility demand reduction program or interruptible power contract.

Therefore, the emergency standby IC engine involved with this project will only have to meet the requirements of Sections 5.7 and 6.2.3 of this Rule.

Section 5.7 of this Rule requires that the owner of an emergency standby engine shall comply with the requirements specified in Section 5.7.2 through Section 5.7.5 below:

1) Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

2) Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

3) Install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

Therefore, the following conditions will be listed on the ATC to ensure compliance:

- {3405} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]

- {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

- {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

- {3806} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702]

- {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]

- {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]

Section 6.2.3 requires that an owner claiming an exemption under Section 4.2 or Section 4.3 shall maintain annual operating records. This information shall be retained for at least five years, shall be readily available, and submitted to the APCO upon request and at the end of each calendar year in a manner and form approved by the APCO. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702]

- {3497} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO_2) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

Volume SO_2 = (n x R x T) ÷ P
n = moles SO_2
T (standard temperature) = 60 °F or 520 °R
R (universal gas constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$

$$2.85 \quad \frac{lb-S}{MMscf-gas}\times\frac{1\,scf-gas}{1{,}000\,Btu}\times\frac{1\,MMBtu}{8{,}578\,scf}\times\frac{1\,lb-mol}{64\,lb-S}\times\frac{10.73\,psi-ft^3}{lb-mol-{}^\circ R}\times\frac{520^\circ R}{14.7\,psi}\times 1{,}000{,}000 = \quad 1.97 \quad \text{ppmv}$$

Since 1.97 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {3493} This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas fuel only. [District Rule 2201]

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this engine is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

This regulation applies to any new or in-use stationary diesel-fueled compression ignition (CI) emergency standby engine. The engine involved with this project is fired on natural gas and is not compression ignited. Therefore, this regulation is not applicable to the engine involved with this project.

California Environmental Quality ACT (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential,

significant environmental effects of proposed activities.

- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The City of Modesto (City) is the public agency having principal responsibility for approving the Project. As such, the City served as the Lead Agency for the project. Pursuant to Section 21157.1 of the California Public Resources Code (California Environmental Quality Act), the City prepared an Initial Study to evaluate the proposed project in accordance with land use and environmental policies and provisions of the City's General Plan Master EIR. The City made the following findings and adopted a Finding of Conformity for this project:

- The project is fully within the scope of the Master Environmental Impact Report (MEIR) prepared for the General Plan;
- The project will not generate additional significant environmental effects not previously examined in the MEIR; and
- No new or additional mitigation measures or alternatives are required.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's thresholds of significance for criteria pollutants. Thus, the District concludes that through a combination of project design elements and permit conditions, project specific stationary source emissions will be reduced to less than significant levels. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful 45-day EPA comment period, issue Authority to Construct N-3386-486-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix A.

X. Billing Information

Billing Schedule			
Permit Number	**Fee Schedule**	**Fee Description**	**Fee Amount**
N-3386-486-0	3020-10-C	383 bhp IC engine	$240

Appendices

A. Draft ATC and Emissions Profile
B. BACT Guideline and BACT Analysis
C. Emissions Data Sheet
D. RMR Summary
E. QNEC Calculations

Appendix A
Draft ATC and Emissions Profile

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-3386-486-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 600 YOSEMITE BLVD
MODESTO, CA 95354

LOCATION: 600 YOSEMITE BLVD
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
383 BHP (INTERMITTENT) CUMMINS MODEL GTA855E RICH-BURN NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION (NSCR) POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. This IC engine shall be equipped with a three-way catalyst/non-selective catalytic reduction system and air-to-fuel ratio controller and shall be fired on natural gas fuel only. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
7. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 2201 and 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-3386-486-0 : Sep 15 2014 9:21AM -- HEINENG : Joint Inspection NOT Required

8. Emissions from this IC engine shall not exceed any of the following limits: 0.31 g-NOx/bhp-hr, 1.46 g-CO/bhp-hr, or 0.00 g-VOC/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Emissions from this IC engine shall not exceed 0.033 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
10. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rules 2201 and 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
11. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] Federally Enforceable Through Title V Permit
12. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702] Federally Enforceable Through Title V Permit
13. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
15. During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
16. The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702] Federally Enforceable Through Title V Permit

Application Emissions

Permit #: N-3386-486-0	**Last Updated**
Facility: E & J GALLO WINERY	08/13/2014 HEINENG

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	26.0	1.0	3.0	123.0	0.0
Daily Emis. Limit (lb/Day)	6.3	0.2	0.7	29.6	0.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	6.0	0.0	0.0	30.0	0.0
Q2:	7.0	0.0	1.0	31.0	0.0
Q3:	7.0	1.0	1.0	31.0	0.0
Q4:	6.0	0.0	1.0	31.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Appendix B
BACT Guideline and BACT Analysis

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.6
Last Update: 6/20/1995
Emergency Gas Fired IC Engines > or = 132 hp, Rich Burn

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Natural gas, LPG, or propane as fuel	CO Catalyst and natural gas, LPG, or propane as fuel	
NOX	Natural gas, LPG, or propane as fuel	NOx Catalyst and natural gas, LPG, or propane as fuel	
PM10	Positive Crankcase Ventilation (PCV) and natural gas, LPG, or propane as fuel		
SOX	Natural gas, LPG, or propane as fuel		
VOC	Positive Crankcase Ventilation (PCV) and natural gas, LPG, or propane as fuel	VOC Catalyst, Positive Crankcase Ventilation (PCV), and natural gas, LPG, or propane as fuel	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

Top Down BACT Analysis for the Emergency Gas Fired IC Engines > or = 132 hp, Rich Burn

Oxides of nitrogen (NO_X) are generated from the high temperature combustion of the LPG/propane gas fuel. A majority of the NO_X emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_X emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

1. BACT Analysis for NO_X Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.6, identifies the following BACT options for NO_X emissions from rich-burn emergency gas fired IC engines $\geq$ 132 bhp as follows:

1) Natural gas, LPG, or propane as fuel (achieved in practice)
2) NO_X catalyst and natural gas, LPG, or propane as fuel (technologically feasible)

No control alternatives were identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) NOx catalyst and natural gas, LPG, or propane as fuel (technologically feasible)
2) Natural gas, LPG, or propane as fuel (achieved in practice)

d. Step 4 - Cost Effectiveness Analysis

The applicant is proposing a NO_X catalyst (three-way catalyst). This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

e. Step 5 - Select BACT

BACT for NO_X emissions from this emergency standby natural gas fired IC engine > 132 bhp is a NO_X catalyst (three-way catalyst) and natural gas, LPG, propane as fuel. The applicant has proposed to install a 383 bhp rich-burn emergency standby natural gas IC engine with a NO_X catalyst (three-way catalyst); therefore BACT for NO_X emissions is satisfied.

Appendix C
Emissions Data Sheet

California Environmental Protection Agency AIR RESOURCES BOARD	BUCK'S ENGINES LP	EXECUTIVE ORDER U-L-040-0027 New Off-Road Large Spark-Ignition Engines Above 19 Kilowatts

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapters 1 and 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following new large spark-ignition engines and emission control systems produced by the manufacturer are certified for use in off-road equipment as described below. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY NAME	ENGINE DISPLACEMENT (liters)	FUEL TYPE
2012	CBKSB08.0SCE	8.0	CNG, LPG

DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT USAGE
5000	Heated Oxygen Sensor, Gaseous Fuel Mixer, Three Way Catalytic Converter	Generator, Compressor and Pump

ENGINE MODELS (rated power in kilowatt, kW)	See Attachment

The following are the hydrocarbon plus oxides of nitrogen (HC+NOx) and carbon monoxide (CO) exhaust certification emission standards (Title 13, California Code of Regulations, (13 CCR) Section 2433(b)(1)) and certification emission levels for this engine family in grams per kilowatt-hour (g/kW-hr). Engines within this engine family shall have closed crankcases in conformance with 13 CCR Section 2433(b)(3) .

(g/kW-hr)	HC+NOx	CO
Exhaust Standards	2.7	4.4
Certification Levels	0.1	0.4

The following is the evaporative hydrocarbon emission standard (13 CCR Section 2433(b)(3)) and certification emission level for this engine family in grams per gallon of fuel tank capacity (g/gallon).

Evaporative Certification Method	HC Certification Level (g/gallon)	HC Certification Standard (g/gallon)
Design Based	N/A	0.2

BE IT FURTHER RESOLVED: That for the listed engines for the aforementioned model-year, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2433(c) (certification and test procedures), 13 CCR Section 2434 (emission control labels), and 13 CCR Sections 2435 and 2436 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 19 day of December 2011.

Annette Hebert, Chief
Mobile Source Operations Division

Appendix D
HRA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	G. Heinen - Permit Services
From:	Kyle Melching - Permit Services
Date:	August 18, 2014
Facility Name:	E & J Gallo Winery
Location:	724 Yosemite Blvd., Modesto
Application #(s):	N-3386-486-0
Project #:	N-1141739

A. RMR SUMMARY

Categories	NG-FIRED EMERGENCY STANDBY ICE (Unit 486-0)	Project Totals	Facility Totals
Prioritization Score	2.99	2.99	>1
Acute Hazard Index	0.03	0.03	0.08
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	**2.16E-07**	2.16E-07	4.51E-06
T-BACT Required?	**No**		
Special Permit Conditions?	**Yes**		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit 486-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
2. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **100** hours per calendar year. [District Rule 4702 and 17 CCR 93115]

B. RMR REPORT

I. Project Description

Technical Services received a request on August 14, 2014, to perform a Risk Management Review (RMR) for a 383 bhp NG-fired emergency standby IC engine powering an electrical generator.

II. Analysis

Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District emission factors for Natural Gas Fired internal combustion (4 Stroke Rich Burn) Engine. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the proposed project was greater than 1.0 (see RMR Summary Table). Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with point source parameters outlined below and concatenated 5-year meteorological data from Visalia to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the reviews:

Analysis Parameters Units 486-0			
Source Type	Point	Max Hours per Year	100
Stack Height (m)	8.53	Type of Closest Receptor	Business
Stack Diameter (m)	0.2	Closest Receptor (m)	97
Stack Temp (K)	932	NG Usage Rates (mmscf/hr)	0.003
Stack Velocity (m/s)	24.8	NG Usage Rates (mmscf/yr)	0.3

III. Conclusions

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **2.16E-07**; which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for the proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

IV. Attachments

A. RMR request from the project engineer
B. Additional information from the applicant/project engineer
C. Stack Parameter Worksheet
D. Prioritization score w/ toxic emissions summary
E. HARP Risk Report
F. Facility Summary

Appendix E
QNEC Calculations

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr
PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr

Since this is a new unit, PE1 = 0 for all pollutants. Thus, QNEC = PE2 (lb/qtr).

Using the PE2 (lb/yr) values calculated in Section VII.C.2, Quarterly PE2 is calculated as follows:

$PE2_{quarterly}$ = PE2 (lb/yr) ÷ 4 quarters/year = QNEC

QNEC		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO_X	26	6.5
SO_X	1	0.3
PM_{10}	3	0.8
CO	123	30.8
VOC	0	0.0